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EXAMINER

CADUGAN, ERICA E

ART UNIT PAPER NUMBER

3722

DATE MAILED: 10/30/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/638,835

Applicant(s)

WEISS, STEPHEN F.

Examiner

Erica E Cadugan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Objections*

1. Claim 1 is objected to because of the following informalities: in line 23, it appears that --is-- should be inserted prior to "incapable". Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, the specification as originally filed does not appear to support that the forward edge of the attachment portion is "incapable of shearing material from the workpiece produced by the action of the spiral saw" as now set forth in independent claim 1.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The terms “significantly” (claim 1, line 17), “close-fitting” (claim 1, line 22), “slightly” (claim 7, line 2), and “several” (claim 10, line 2) are relative terms which render these claims indefinite. The terms “significantly” (claim 1, line 17), “close-fitting” (claim 1, line 22), “slightly” (claim 7, line 2), and “several” (claim 10, line 2) are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Each of claims 2-10 refers to “[a]n article” of a previous claim. However, no such “article” was previously set forth in the claims, rendering it unclear what limitations each of these claims includes. For the purpose of an analysis of the claims with respect to the prior art, Examiner is assuming that “[a]n article” should properly be --[t]he attachment--. However, note that these claims must still be amended to overcome this rejection.

Claim 2 recites the limitation “the forward end portion” in the last line. There is insufficient antecedent basis for this limitation in the claim (previously claimed as “the forward portion”, which is not inherently an “end” portion).

Regarding claim 3, it is unclear what is meant by “rearwardly of the first attachment portion” as set forth in the claim. Specifically, it is unclear if this limitation is intended to address some angle of extent of the “dust exit member”, or if it is intended to address a location of the “dust exit member”. If the latter, note that it is unclear how the “dust exit member” can extend both “from the first attachment portion” and in a location that is “rearwardly of the first attachment portion”.

Claim 7 recites the limitation “its connection point ” in lines 2-3. There is insufficient antecedent basis for this limitation in the claim (note that it was not previously set forth that the

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exit member has a "connection point" with the first attachment portion, and that previously it was set forth that the dust exit member "communicates" with the interior of the first attachment portion which does not inherently mean that there is a "connection point".

***Claim Rejections - 35 USC § 102/103***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-3, 5, and 10, as best understood, are rejected under 35 U.S.C. 102(b) as anticipated by German Pat. Doc. 3734127 (hereinafter '127) or, in the alternative, under 35 U.S.C. 103(a) as obvious over '127 in view of either of U.S. Pat. No.'s 5,323,823 (Kopras) or 5,143,490 (Kopras).

'127 teaches a machining tool 1 that is used to drive a helical or "spiral" (see Figure 1) tool bit 6. Element 29 is considered the claimed "first attachment portion", and element 31 in combination with tool body 2 is considered the claimed "power tool" and "forward" portion thereof (see Figures 1-2). Note that the bottom surface (as viewed in Figure 1) of element 29 rests on the workpiece 14 as the tool 6 machines the workpiece a desired depth "e" (see Figure 1), although there is nothing preventing '127's tool from being used to cut all the way through a workpiece if desired. Note that the relative longitudinal positions of elements 29 and 31 are adjustable, and that locking member 37 is used to fix them in a desired relative position for a

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desired depth of cut (Figure 1). Additionally, tube 22 serves as a “dust exit member” that angles upwardly (as viewed in Figure 1) from its point of connection to member 29. Note that tube 22 “communicates” with the interior space 19 of the member 29, and also that tube 22 is connected to a suction pump P (see Figure 1). As best understood, it does not appear that any edge of member 29 is used to “shear” material from the workpiece.

Specifically regarding claim 10, note that either of the inner or outer diameters of element 29 are considered to be “several” times the diameter of the shown tool bit 6.

In the alternative, if the spiral tool bit 6 shown is not considered the claimed “spiral saw bit”, Kopras ‘490 teaches a spiral bit 14 and Kopras ‘823 teaches a spiral bit 20 (see Figure 2 of both patents). Kopras ‘490 specifically teaches that one advantage of that particular bit is that it has sufficient shear strength, even in a diameter as small as  $1/8$ ’, to display much better resistance to breakage in use in comparison to prior bits (col. 2, lines 40-42, also col. 2, lines 1-8), and Kopras ‘823 specifically teaches the advantages that “it can be made in a diameter as small as  $1/8$ ” without an excessive breakage rate during use, yet can be quickly and easily guided along a cutting path in the sheet product without producing excessive burring along the top of the line of cut” (col. 2, lines 1-6, for example). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have substituted the specific bit taught by either of Kopras ‘490 or Kopras ‘823 for the bit taught by ‘127 for the purposes of providing a bit that is resistant to breakage (as taught by both Kopras ‘490 and ‘823 as described above), and which does not produce excessive burr along the top of the line of cut (as taught by Kopras ‘823 as described above).

*Claim Rejections - 35 USC § 103*

9. Claims 4 and 7-9, and alternatively, claim 10, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over German Pat. Doc. 3734127 (hereinafter '127) or, in the alternative, as obvious over '127 in view of either of U.S. Pat. No.'s 5,323,823 (Kopras) or 5,143,490 (Kopras).

'127, or alternatively, '127 in view of either Kopras '823 or Kopras '490 teaches all aspects of the claimed invention as described in the above rejection based thereon. However, regarding claim 4, in '127, the interior surface of element 31 and the exterior surface of element 29 form the "approximately dust-tight connection, instead of the interior surface of element 29 and the exterior surface of element 31. Additionally, regarding claim 7, '127 is silent about any "taper". Additionally, regarding claim 9, and alternatively claim 10, '127 is silent as to the specific dimensions of the tube 22 and of any diameter of the member 29 and the tool 6.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have reversed the relative arrangement of parts 29 and 31 of '127 such that the interior surface of member 29 was used to form the "approximately dust-tight connection" with member 31 (instead of the current arrangement where the exterior surface of member 29 forms an "approximately dust-tight connection" with the interior surface of member 31) because Applicant has not disclosed that having the "interior surface" make the "approximately dust-tight connection" provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected both '127 and Applicant's invention to perform equally well with these parts reversed because it

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doesn't matter to the operation of either '127's device of Applicant's invention which member (31 or 29) is on the outside as long as the two members still form the "approximately dust-tight connection", i.e., regardless of whether the ID (inner diameter) of 31 is larger than the OD (outer diameter) of 29 or whether the ID of 29 is larger than the OD of 31, as long as they are still arranged to form the "approximately dust-tight connection", '127's device will still serve to evacuate the machined debris via tube 22 (see Figure 1).

Therefore, it would have been an obvious matter of design choice to modify '127 (or '127 in view of either Kopras '823 or Kopras '490) to obtain the invention as specified in claim 4.

Regarding the dust exit member tube or hose, note also that a "slightly tapered" vacuum hose connection is common in vacuum hose connections and the use thereof for the instant vacuum attachment would not be unobvious as a design choice. Note also that Applicant has not ascribed any criticality to this feature. Also note that this assertion (that a "slightly tapered" vacuum hose connection and the use thereof is common in vacuum hose connections) is taken to be admitted prior art because Applicant did not previously traverse the Examiner's assertion. See MPEP section 2144.03, section C, for example.

Regarding the relative dimensions of the dust exit member diameter and the first attachment portion (claim 9), note that no criticality has been ascribed to the relative dimensions of the "dust exit member" and the "first attachment portion", and thus it would have been an obvious matter of design choice to have made the different portions whatever relative sizes were



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desired, since such a modification would have involved a mere change in the proportions of components. A change in proportion is generally recognized as being within the level of ordinary skill in the art. In re Reese, 129 USPQ 402.

Regarding claim 10, in the alternative, while '127 does show in Figure 1 that either of the inner or outer diameters of the member 29 as being "several times" the diameter of the tool bit 6 (note that the spiral saw has plural diameters also, but that either of the diameters of the member 29 are "several times" any of the diameters of the bit 6), '127 is apparently silent as to the specifics of the relative dimensions of any tool diameter and any attachment portion diameter. However, again, Applicant has not ascribed any criticality to any diameter of the "attachment portion" being "several times" that of the diameter of the spiral saw. Thus, it would have been an obvious matter of design choice to have made the different portions whatever relative sizes were desired, since such a modification would have involved a mere change in the proportions of components. A change in proportion is generally recognized as being within the level of ordinary skill in the art. In re Reese, 129 USPQ 402.

10. Claim 6, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over '127 or '127 in view of either of Kopras '823 or '490 as applied to claims 1 and 5 above, or alternatively, over '127 or '127 in view of either '823 or '490 above, and further in view of U.S. Pat. No. 3,786,846 (Mehring).

'127, or '127 in view of either '823 or '490 teaches all aspects of the claimed invention as described in the above rejection based thereon, but does not teach the particular slot adjustment arrangement claimed in claim 6.

While '127 does teach that the members 29 and 31 are relatively longitudinally adjustable (see Figure 1, for example), and that they are fixed in a desired longitudinal position via locking member 37 to set the depth of cut "e" of tool 6 (see Figure 1), '127 does not teach the particular slot arrangement claimed. However, it is noted that slotted adjustment means of the instant device constitutes a known obvious design variant of the similar adjustment means described by '127 to allow selective axial adjustment of the distance that the tool extends beyond the end of the attachment portion. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have substituted one known design variant for another, and specifically to have substituted the known slot arrangement for the arrangement taught by '127 depending on many design factors chosen by the designer, such as availability of parts.

In the alternative, Mehring teaches a machining device having an enclosure 22 at a bottom portion thereof, which enclosure includes a vacuum connection 56 connected to a flexible conduit 57 to collect and dispose machined chips (col. 3, lines 29-34, Figures 1-3). Additionally, connected to the lower enclosure 22 is a ledge 40 which has integral mounting tabs 41, 42, which are slotted at 43, and which are respectively secured by mounting screws 44 fitted with wing nuts 45 (Figures 1-3, col. 3, lines 1-12). The slots 43 enable the ledge 40 to be moved therealong, thus enabling tools of different lengths to be accommodated by the lower enclosure 22 (col. 3, lines 1-12, Figures 1, 3), via the bottoming engagement of ledge 40 against the spindle nose 16 of the device (see col. 3, lines 1-12, Figures 1, 3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have substituted the slotted longitudinal adjustment arrangement taught by Mehring for the longitudinal adjustment arrangement taught by '127 for the purpose of

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providing a known functional equivalent, as evidenced by the teachings of Mehring, the selection of which is a design choice of the end user, absent a statement of criticality by Applicant (note that Applicant specifically teaches that "many diverse ways" could be employed to accomplish the adjustability between the cylindrical section and the mounting head, see page 3, lines 19-22, for example).

***Response to Arguments***

11. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


***Faxing of Responses to Office Actions and Contact Information***

13. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica Cadugan whose telephone number is (703) 308-6395. The examiner can normally be reached on Monday through Thursday from 7:30 a.m. to 5:00 p.m., and every other Friday from 7:30 a.m. to 4:00 p.m. If attempts to reach the examiner by

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telephone are unsuccessful, the examiner's supervisor, A.L. Wellington can be reached at (703) 308-2159. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 3700 receptionist whose telephone number is (703) 308-1148.



Erica E Cadugan  
Patent Examiner  
Art Unit 3722

eec  
October 28, 2003